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A NEWLY DISCOVERED BRAZILIAN SPECIES OF THE STILT BUG GENUS *JALYSUS* (HEMIPTERA: HETEROPTERA: BERYTIDAE) ASSOCIATED WITH MYRMECOPHYTIC PLANTS

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Abstract.—The newly discovered stilt bug ***Jalysus ossesae***, the smallest known species of the genus, is described from specimens collected near Manaus, Amazonas, Brazil, on two myrmecophytic species of the genus *Maeita* (Melastomataceae) associated with two species of ants (Formicidae). A diagnosis, description, photographs of the adult male, scanning electron photomicrographs of selected structures, and illustrations of male genitalia are provided to facilitate recognition. A discussion of the relationship with certain species of the genus is given.

Key Words: Hemiptera, Heteroptera, Berytidae, stilt bug, *Jalysus*, new species, distribution, hosts, *Maeita*

The genus *Jalysus* Stål is a relatively large group of New World stilt bugs, containing 11 species (Henry and Froeschner 1998). Henry (1997b) revised the genus and described four new Neotropical species. *Jalysus* is characterized by the overall yellowish-brown coloration; elongate, slender body; long, slender, legs often brown spotted or banded, with each leg having a combined length of the femur and tibia longer than the body; the unique ostiolar process ending in a distally acute or pointed spine; and the shape of the male parameres. Members of the genus range in length from about 6.00 mm to nearly 10.00 mm (Henry 1997a).

Most stilt bugs prefer glandular-hairy or viscid plants, particularly in the families Geraniaceae, Lamiaceae, Malvaceae, Onagraceae, Scophulariaceae, and Solanaceae (Henry 1997b, 2000), but a few, such as *Gampsocoris decorus* (Uhler), *Jalysus spinosus* (Say), and *Metacanthus tenellus* Stål, specialize in certain, usually pubescent grasses (Wheeler and Henry 1981, 2006). The widespread North American *Jalysus wickhami* Van Duzee has been considered an important predator of hornworm eggs on tobacco (Elsey and Stinner 1971), although occasionally it may become a pest of certain crops, such as tomato, causing serious injury to the fruits (Wheeler and Henry 1981; Henry 2000). Henry (1997b) listed the hosts for species of *Jalysus*, and Henry and Froeschner (1998) summarized the known host plants for the Berytidae of the world. Henry (2000) reviewed their economic importance, emphasizing that many stilt bugs, including *J. wickhami*, have strong predatory tendencies.

In this paper, I describe the newly discovered stilt bug *J. ossesae* from

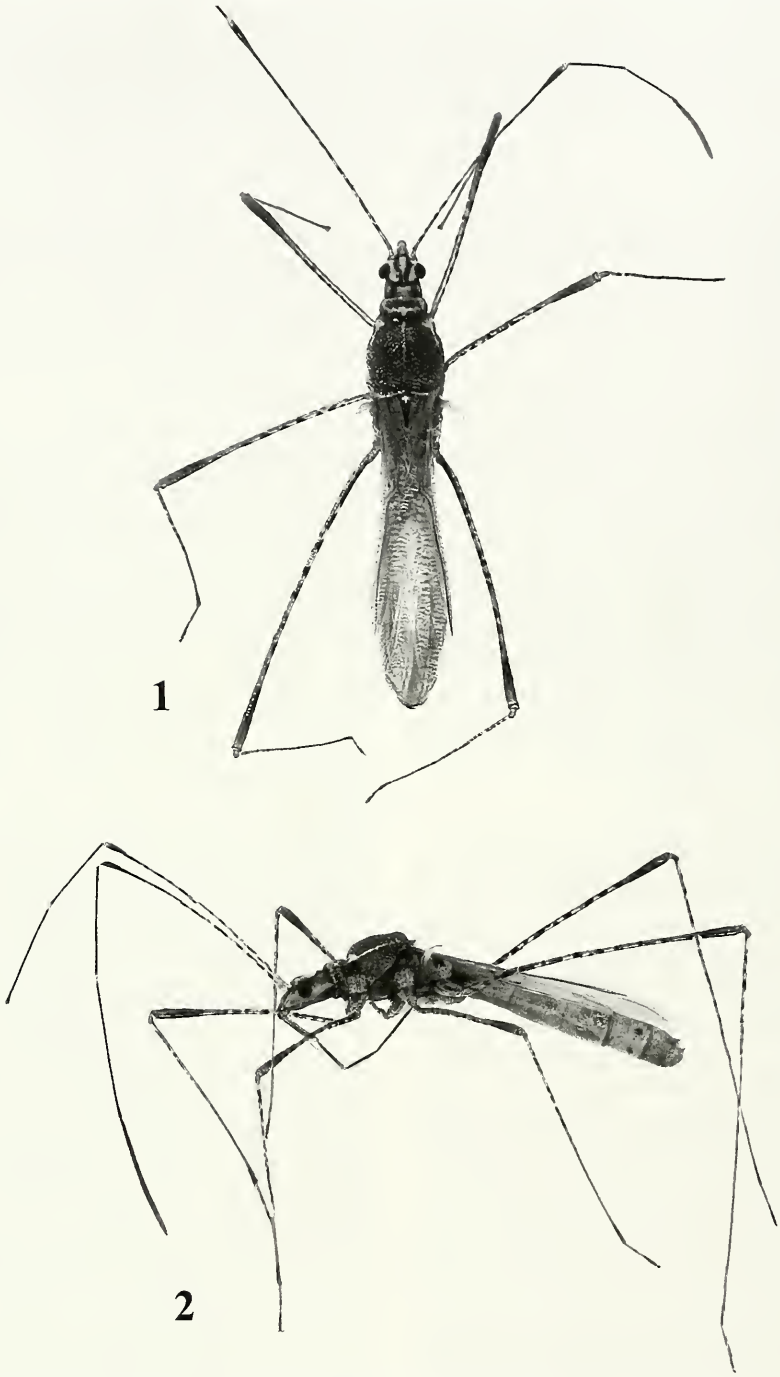
Manaus, Amazonas, Brazil, to provide a name for Francini Osses and her colleagues, Eduardo Martins and Gustavo Romero, who have studied its habits in association with two species of the plant genus *Maeita* (Melastomataceae). These plants possess domatia or specialized leaf pouches in which two species of symbiotic ants (Formicidae) nest. Provided for *J. ossesae* are a diagnosis, description, illustrations of male genitalia, photographs of the adult male, scanning electron photomicrographs of selected structures, and a discussion of the relationship with certain other species of the genus.

The following acronyms are used for institutions cited in this paper: INPA (Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil); MHNC (Museu de História Natural, Instituto de Biologia, Universidade Estadual de Campinas, Brazil); USNM (National Museum of Natural History, Smithsonian Institution, Washington, DC, USA).

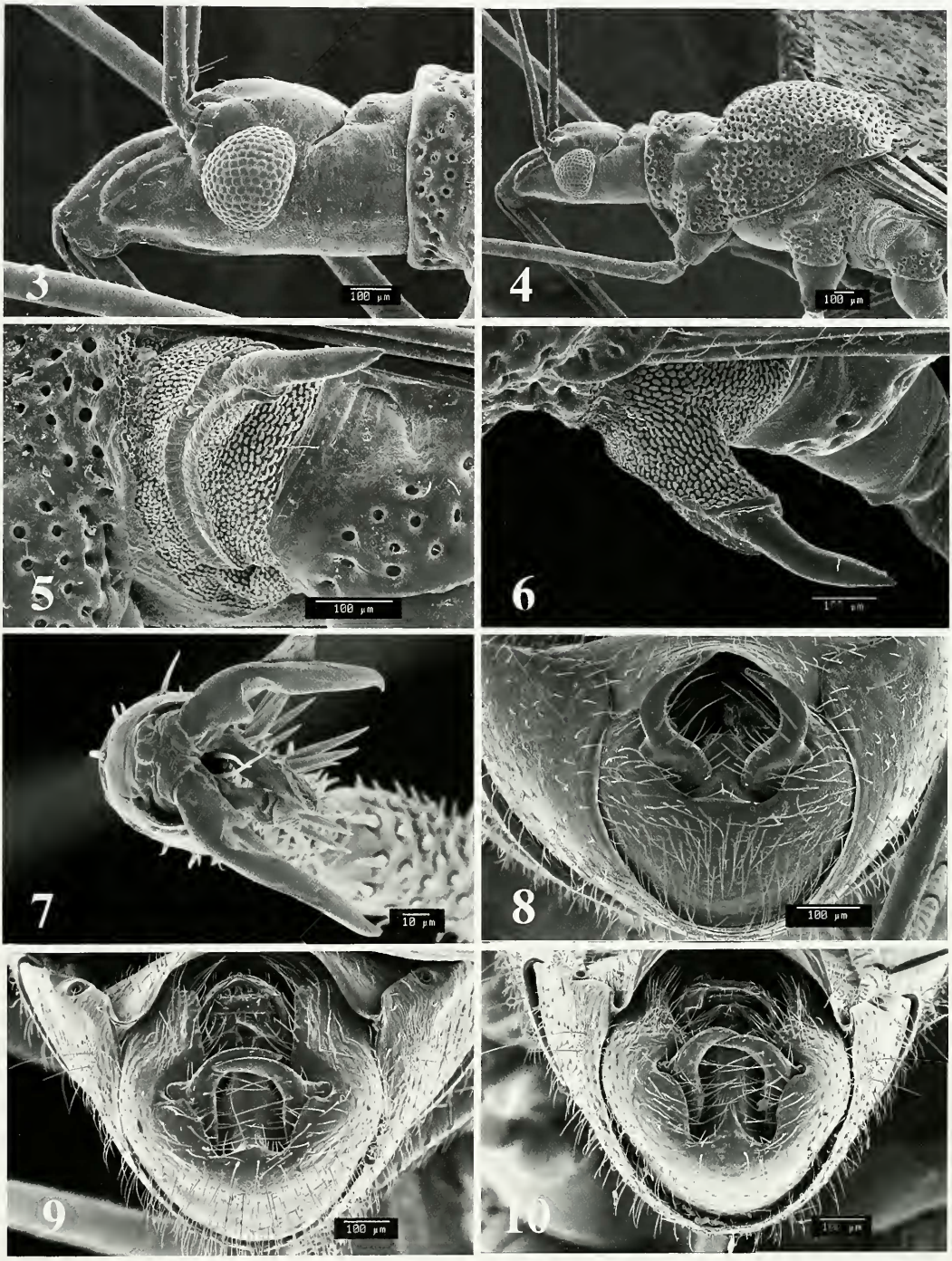
Jalysus ossesae Henry, new species
(Figs. 1–8, 13, 14)

Diagnosis.—*Jalysus ossesae* is distinguished from all other species of *Jalysus* by a combination of the small size (less than 6.00 mm long); the impunctate head (Fig. 3); strongly spotted femora, spots sometimes coalescing to form bands (Figs. 1, 2); long, slender antennal segment IV that is longer than segment II; the very short scutellar spine (Figs. 2, 4); the pale apex of the ostiolar spine; and the shape of the male genital capsule (Fig. 8) and paramere (Fig. 13).

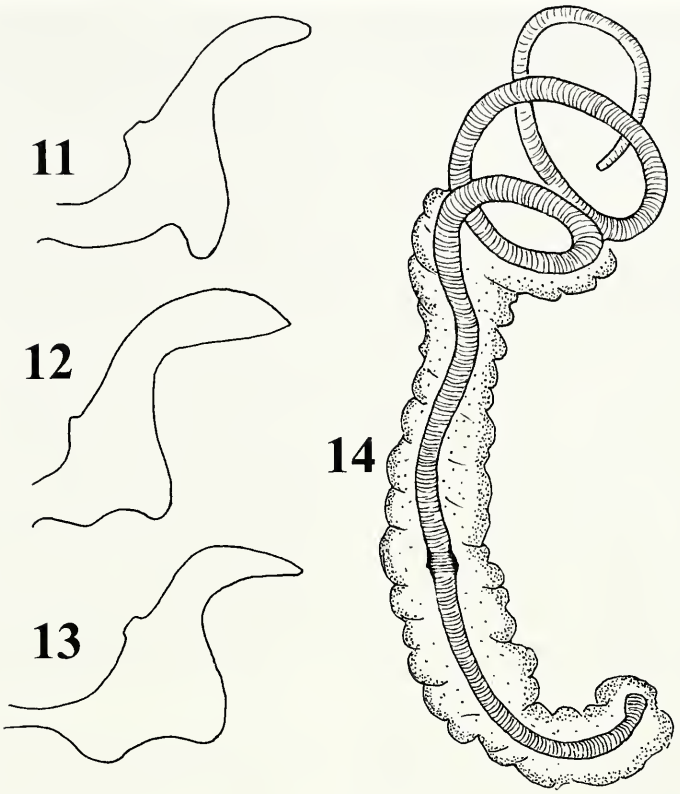
Description.—Male (n=10; holotype measurements in parentheses): Length (from apex of clypeus to apex of hemelytral membrane) 5.38–5.76 mm (5.50 mm); width (across widest area of hemelytra) 0.99 mm (0.99 mm). *Head* (Figs. 3, 4): Length 0.83–0.90 mm (0.85 mm); width across eyes 0.54–0.59 mm (0.58 mm); width of vertex 0.32–0.35 mm (0.32 mm); shiny, impunctate throughout, pale yellowish brown accented with dark brown around base, behind eyes, and on either side of dorsal median line, frons evenly rounded, eyes and ocelli reddish. *Labium:* Length 2.40–2.53 mm (2.43 mm), extending beyond metacoxae to second abdominal segment. *Antenna:* Segment I, length 3.36–3.68 mm (3.68 mm), yellowish brown with 10–12 irregular somewhat broad dark brown bands, swollen apex dark brown; II, 1.44–1.60 mm (1.60 mm), dark brown, base and apex narrowly pale; III, 1.72–1.88 mm (1.88 mm), dark brown to fuscous, base narrowly pale; IV, 1.60–1.68 mm (1.64 mm), uniformly dark brown to fuscous, at most, slightly paler on distal 1/6. *Pronotum* (Figs. 1, 2, 4): Length 1.03–1.16 mm (1.16 mm); basal width 0.74–0.78 mm (0.78 mm); anterior lobe shiny, brown to yellowish brown, calloused anterior angles and transverse ridge pale yellow; posterior lobe dull yellowish brown, calloused anterior angles (at base of anterior lobe) pale yellow, lateral carina yellow, fading on posterior 1/3. *Scutellum* (Fig. 4): Yellowish brown, armed with only a short, stout spine, length about 0.10–0.11 mm (0.11 mm). *Hemelytron:* Shiny yellowish brown; membrane hyaline. *Ventral surface:* Yellowish brown. *Ostiolar evaporative area* (Figs. 5, 6): Uniformly pale yellowish brown, including apical spine. *Legs:* Yellowish brown; femora heavily spotted with small to large dark brown spots, some coalescing to form incomplete bands; tibiae with narrow, sometimes indistinct, dark brown bands, often fading distally, weakly clavate apices dark brown; tarsomeres I and II yellowish brown, last tarsomere and claw dark brown. *Femora:* Length pro- 2.28–2.48 mm (2.44 mm); meso- 2.60–2.80 mm (2.80 mm); meta- 3.44–3.76 mm (3.72 mm). *Tibiae:* Length pro- 2.64–2.80 mm (2.76 mm); meso-



Figs. 1–2. Photographs of *Jalysus ossesae*, male. 1, Dorsal aspect. 2, Lateral aspect.



Figs. 3–10. Photomicrographs of *Jalysus* spp. 3–8, *Jalysus ossesae*. 3, Head (118×), lateral aspect. 4, Head and pronotum (51.5×), lateral aspect. 5, Ostiolar evaporative area (200×), lateral aspect. 6, Ostiolar evaporative area (117×), dorsal aspect. 7, Claw (695×). 8, Male genital capsule (165×), caudal aspect. 9, *Jalysus albidus*, male genital capsule (120×), caudal aspect. 10, *J. sobrinus*, male genital capsule (118×), caudal aspect.



Figs. 11–14. Male genitalia of *Jalysus* spp. 11–13, Male parameres of *Jalysus* spp. 11, *J. albidus*. 12, *J. sobrinus*. 13, *J. ossesae*. 14, Aedeagus of *J. ossesae*.

3.00–3.20 mm (3.12 mm); meta- 4.80–5.35 mm (5.35 mm).

Genitalia: Capsule (Fig. 8): Oval, basal edge between bilaterally symmetrical parameres with a short pointed process. Paramere (Fig. 13) with a sickle-shape apex and broad, quadrate basal trunk. Aedeagus (Fig. 14) simple, mostly membranous, ductis seminis elongate, with three coils distally and a small scleritized area at middle.

Female (n=6): Length 5.38–5.76 mm; 0.98–1.02 mm. *Head:* Length 0.82–0.88 mm; width across eyes 0.53–0.58 mm; width of vertex 0.32–0.34 mm. *Labium:* Length 2.40–2.50 mm, extending to abdominal segment II. *Antenna:* Segment I, length 3.10–3.42 mm; II, 1.44–1.54 mm; III, 1.72–1.86 mm; IV, 1.60–1.62 mm. *Pronotum:* Length 1.09–1.18 mm; basal width 0.69–0.77 mm. *Legs: Femora:* Length pro- 2.21–2.46 mm; meso- 2.56–2.72 mm; meta- 4.16–5.15 mm. *Tibiae:* Length pro- 2.56–2.69 mm; meso- 2.91–3.10 mm; meta- 4.16–5.15 mm.

Etymology.—I am pleased to name this new species after Francini Osses, one of the discoverers who has made observations on its biology and habits, along with her colleagues Eduardo Martins and Gustavo Romero.

Hosts.—All specimens of *J. ossesae* were taken on the myrmecophytic *Maeita guianensis* Aubl. or *M. poeppigii* Mart. ex Triana (Melastomataceae). See companion article by Osses, Martins, and Romero (2007) describing the association of this stilt bug with these plants and their symbiotic ant species.

Distribution.—Known only from one locality near Manaus, Amazonas, Brazil.

Discussion.—*Jalysus ossesae* runs in my key (Henry 1997b) to *J. clavatus* (couplet 3) based on the impunctate head, spotted legs, and uniformly black fourth antennal segment, or to *J. albidus* and *J. sobrinus* (couplet 4) if the fourth antennal segment is considerd pale apically. All four species share an impunctate head, banded first antennal segments, spotted legs, and similar-shaped genital capsules (Figs. 8–10) and parameres (Figs. 11–13). The pale spined apex of the ostiolar process, the small size, and the long, slender, uniformly dark (i.e., apex not distinctly white on apical 1/3 to 1/6) fourth antennal segment, however, distinguish *J. ossesae* from these species.

Jalysus ossesae is further distinguished from *J. clavatus* by the smaller size (5.38–5.76 mm versus 7.83–8.33 mm); the smoothly rounded frons (versus strongly angulate in *J. clavatus*); the more slender, weakly clavate femora; the more slender and longer antennal segment IV that is longer than segment II; and the shape of the parameres. From *J. albidus* and *J. sobrinus*, it differs by the smaller size, the uniformly dark (with only the apex slightly more pale versus distal 1/2 to 1/3 white in *J. albidus* and *J. sobrinus*), more slender, and longer antennal segment IV (much longer than segment II versus clearly shorter than segment II in *J. albidus* and *J. sobrinus*); the much shorter scutellar spine (Fig. 4) that does not attain the level of the pronotal disc; and the weakly raised basal ridge (Fig. 8) of the male genital capsule (similar to *J. albidus*, fig. 9, versus sharply raised in *J. sobrinus*, fig. 10); and shape of the parameres (Figs. 11–13).

Type specimens.—Holotype ♂, Brazil: Amazonas, PDBFF [Projeto Dinâmica Biológica de Fragmentos Florestais] Reserva 1501, "Reserva Florestal do Km 41" [ca. 70 km north of Manaus], mont. cont. [old growth forest], 2°26.724′S, 59°45.973′W, 4–7. XI. 2005, Coletada em mirmecófita, T. J. Izzo coll. (INPA). Paratypes: 13 ♂♂, 6 ♀♀, same data as for holotype (INPA, MHNC, USNM).

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